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CARIBBEAN COUNCIL FOR SCIENCE AND TECHNOLOGY

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**TECHNOLOGICAL DIMENSIONS OF ECONOMIC DIVERSIFICATION
AND DEVELOPMENT IN THE CARIBBEAN
WITH SPECIFIC REFERENCE TO THE
ORGANIZATION OF EASTERN CARIBBEAN STATES (OECS)**



UNITED NATIONS

ECONOMIC COMMISSION FOR LATIN AMERICA AND THE CARIBBEAN
Subregional Headquarters for the Caribbean

CARIBBEAN DEVELOPMENT AND COOPERATION COMMITTEE

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**TECHNOLOGICAL DIMENSIONS OF ECONOMIC DIVERSIFICATION
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Background

Most Caribbean countries are faced with the problems of high unemployment, especially among the youth and women. Many of the countries have education systems inherited from a colonial past, which do not necessarily address the requirements for sustainable development or the development of a large entrepreneurial class. In the Organization of Eastern Caribbean States (OECS), the future of the main agricultural export crops is at risk for two main reasons: (a) the countries' inability to meet standards of quality stipulated by importing countries; and (b) the pending changes in the import regime of European Union brought about as a result of the breaking down of trade barriers. This breaking down of trade barriers has given rise to concerns that local manufacturing and agri-enterprises will not be able to compete internationally. The formation of new trading blocs, the global integration of financial and capital markets, the increasing acceleration in the development and deployment of knowledge reflected in rapid product development/obsolescence coupled to energy and environmental concerns, and the liberalization of global trade constitute the framework within which trade, industrialization and dynamic technological changes are taking place and in which technology-based goods and services account for the fastest growing share. These resultant changes represent enormous challenges to developing countries as they have widened the range of products and industries involving innovative competition as opposed to conventional price competition. Appropriate measures are therefore required to develop the capacity to keep up with the changing dynamics of competitiveness patterns and the new realities of a globalized market if trade and export earnings are to be used as vehicles for alleviating unemployment and poverty.

The majority of countries in the Caribbean have failed to attract or retain international investment on any large scale in their industrial sectors, that comprise mainly small or medium-scale industries, and the average Caribbean entrepreneur faces a series of problems, some of which are related to the small home markets. Other problems shared include:

- Limited access to technology and a lack of information on current technological developments in their particular field;
- Lack of awareness of world market opportunities and trends;
- Lack of awareness of indigenous resources;
- Lack of capital for growth;
- The inability to supply a significant volume of product;
- Lack of proper facilities for quality assurance;

- Appropriateness and size of equipment;
- Lack of accounting, management and marketing skills;
- High unemployment rate among youth and women;
- A reluctance by the youth to enter into primary agricultural production;
- Diverse sources of information that can be time consuming and costly to obtain;
- Relative age of the technology in use (estimated average is as high as 20-25 years);
- Low levels of installed capacity utilization;
- Shortage of skilled, productive manpower and low average level of labour productivity;
- Strong international competition as trade barriers fall;
- High cost of finance;
- Inability to maintain equipment;
- Inadequate international transportation structure for cargo movement.

Analysis of the causes of the problems

Although the causes of the problems have historical backgrounds, many of these factors still exist and mitigate against successfully dealing with these problems. Such factors are:

Education

Among the factors in the evolution of an entrepreneurial class and the provision of qualified persons for industrial development is the education system. In the lesser-developed countries, education lacks relevance and emphasis is placed on academic curricula and the results obtained from examinations set by the Universities of Cambridge or Oxford for secondary school students. Non-achievers bear a social stigma and there is limited or no offering of second chances at education for those who have matured, with very little in the way of formal vocational/technical training spaces. For example, in Saint Vincent and the Grenadines, there are over 600 students in the academic section of the Community College but there are only 200 spaces available in vocational/technical skills. The high unemployment rate of youth (30 per cent) may be related to the lack of training in vocational and/or technical skills, since few countries have educational systems that provide a comprehensive variety of vocational/technical skills relevant to their needs. Skills training programmes provided by the public education system are usually poorly funded and the faculty, although very willing, is not sufficiently

trained, therefore there is a lack of skilled technicians which further contributes to the problems noted above. Of the skills training programmes that exist, very little relevance to industry is provided and interface with potential employers is practically non-existent. Recognition of the need for relevant and quality academic, vocational and technical education that would contribute to the development of a thriving and vibrant small business sector is therefore of the utmost importance for these countries.

Lack of entrepreneurial spirit

In some countries, such as Indonesia, Malaysia, the Philippines and Thailand, vocational/technical skills training is considered a major component in the engine of economic growth. Well-trained, skilled persons not only contribute effectively as employees but also are the foundation for national entrepreneurship. These countries have related vocational skills directly to business, by allowing the spirit of business to develop in their trade programmes, through sales of services and products to the public. In this way, a training component in customer service/responsibility and business management is also created. In some instances, students are encouraged to develop and sell their own wares. This is not the case in the Caribbean, where students are not encouraged to manufacture or sell their own products and thus earn revenue. Some training institutions provide a component of awareness of small business, but there is usually no practical follow-through or creativity to generate product ideas. Often, non-governmental and government small and micro enterprise programmes attempt to fill the void with micro enterprise and skills programmes in such areas as agriculture, crafts and sewing with mixed results. Few vocational/technical skills are delivered at an internationally recognized level of competence to facilitate mobility either within or outside of CARICOM. There is a narrow or limited variety of skills taught. Currently, community colleges exist in name only, still placing emphasis on traditional academic subjects with little development of technical programmes. Where technical/vocational exist, their scope tends to be narrow in focus. In general, educators fail to see any relevance to the development of an entrepreneurial awareness or spirit.

Unawareness of trends and opportunities

In developed countries, entrepreneurs are usually able to identify trends and develop these into profitable enterprises, whereas in the Caribbean, the ability to identify business opportunities tends to be lacking. When governments step in to attempt to fill the void by identification of relevant opportunities, very little or no interest is showed by the community to which these programmes are directed. This may be because most opportunities bring to the fore some of the problems that were previously identified.

Production hurdles for micro enterprises

Problems related to both the levels and quality of production exist in most countries of the Caribbean. A single micro farmer cannot supply a continuous or a large volume needed for either export or processing and the seasonality of the crops grown is also a problem, one which

is, however, being overcome by the introduction of new cultivars. Gathering produce to a central processing centre is necessary but in most countries attempts at forming cooperatives have never materialised and in cases where cooperatives have been formed their life span is short. Successful cooperatives or growers associations have been formed for those crops with a significant presence on the export market, for example, bananas in the OECS and to a lesser extent, cocoa in Trinidad and Tobago. Small agro-processors have to either grow their own produce for processing or purchase from individual growers or from the open market. Apart from the problem of insufficient produce, other inputs to production, including packaging, are not available locally and usually have to be imported at substantial costs to processors. Processing is also hampered by import duties on raw material and machinery, lack of qualified technicians to maintain equipment, out-dated equipment and processes and lack of export readiness. There also seems to be clustering of industries due to the small population in each country and a lack of outreach to other CARICOM countries. However, it is notable that some countries are importing raw materials, such as sugar, from their neighbours. Efficiency in production methods needs to be optimised if micro-producers are to compete successfully for even a small share of the export market.

Climate for investment and development

In many countries, the establishment of new industries is obfuscated by government bureaucracy, since in many instances, it takes at least one year to obtain the permits and/or licenses that may be required. Many countries are still attempting to control the economies with monopolies on certain products, imposing some trade restrictions and protecting selected industries. A disproportionately large number of para-statal businesses that are usually inefficient in operations also exist. Added to the problems of unskilled and inefficient labour, costly imported materials, poor transportation to international markets and inconsistent government policies, there is little incentive for international firms to seek to set up production facilities.

Lack of standards, patent and copyright mechanisms

It is only within the last five years, has there been recognition of the need for grading and metrology standards, quality assurance, and label requirements in many of the OECS countries, especially given the new trade climate and the demand for goods and services conforming to various international standards of quality. Patent and/or copyright laws are lacking and, where these exist, enforcement is not pursued.

Lack of science and technology inculcation

While science and technology councils have been established in many countries, the acceptance of the need for such agencies is new. Ancillary science and technology services, such as Produce Chemist Laboratories, agriculture laboratories and Bureaus of Standards also exist. Most of these agencies are equipped with state-of-the-art technology and highly qualified personnel with the ability to seek and adapt technology and consult on quality, however, there is

no coordination with other institutions such as community colleges, high schools, non-government organizations (NGOs), tertiary educators, small enterprise development units and development corporations. Coordination could be harnessed to utilize equipment, assist in the design of machinery and tools, apply new technologies and may also encourage educators to apply creativity to science to develop practical innovations and introduce new skills sets relevant to local needs.

Unused research and development

A major underutilized resource in all countries is the wealth of available research and development in the laboratories and the science and technology centres. Where science and technology agencies do exist there is no marketing of their services and, on the other hand, personnel complain that the public and small businesses are seldom interested in the services offered. Some laboratories have gone so far as to develop pilot projects, for example, technologists at the Grenada Produce Chemists Laboratory have developed an excellent line of jams and jellies with world-class labeling and in Antigua and Barbuda teas utilizing local herbs have been developed. Unfortunately, neither of these projects has generated entrepreneurial interest. Fundamentally, there are problems in marketing and public relations that could be addressed by training. Use of the Internet may be another useful tool for promotion, since all countries have the necessary technology.

Lack of networking and linkages

There exists within the Caribbean region, a multitude of science and technology councils, laboratories and other institutions involved in research and development. In spite of this, very little inter-agency networking exists, that seek to share ideas or disseminate knowledge. Inter-country collaboration exists mainly via such regional organizations and institutions as the University of the West Indies (UWI) and the Caribbean Council for Science and Technology (CCST). While some networking exists, local focal points are generally weak, and information is not disseminated to a wide cross section of the population.

Financing

Securing access to financing for small enterprise is often a major impediment. Most countries have some financing available to start micro businesses and to finance and encourage larger scale enterprises. Funds are dispensed from a variety of agencies, such as Small Enterprise Development Units, Industrial Development Banks, National Development Foundations, while in some instances, loans are available from banks and other traditional financial agencies, with guarantees provided by government funded programmes. Generally, micro and small entrepreneurs in the region have weak financial skills and are yet to grasp the concept that they must separate personal from business funds and build equity to grow through retained earnings. Some countries have venture capital fund systems, but failure to educate the public as to how these operate has led to under-utilization of these services by small and micro entrepreneurs.

Under- utilization of sustainable natural resources

Caribbean countries possess a wealth of sustainable natural agricultural resources, much of which is unrecognised and therefore undeveloped. For example, Neem trees (*Azadirachta indica A. Juss*) grow in most of the countries, but is considered a weed and few persons are aware of the fact that this tree has become the focus of attention all over the world due to its plethora of biological activities, which include excellent insect control activities and various medicinal properties. Very few persons are aware that limonine, the turpine resin from citrus peel, could be extracted by a simple process, or that it had a growing worldwide demand as an organic stain remover. The main problem seems to be a lack of awareness of world market trends and of new opportunities. It is also difficult to get farmers to diversify because the emphasis has always been on monoculture and the traditional crops grown continue to be seen as the mainstay of the economies.

Business support institutions and programmes

The table below provides a window to the service providers in selected OECS countries. It will be noted that there is a duplication of services provided among institutions in both the private and public sector. The matrix is followed by a brief status of providers of services to small and medium businesses in these countries, as well as some regional support programmes, and supports the need for economic diversification.

Matrix of key service providers in selected countries

Antigua and Barbuda	National Development Foundation	Private	Service	Training, business assistance, lending
	Agricultural Research Lab/Produce Chemists Lab	Public	Service	Extension services, R&D
	Directorate of Women's Affairs	Public	Service	Training
	National Development Corporation	Public	Service	Providing assistance
	Community College		Service	Training
	University of the West Indies	Public	Service	Training
	The Standards Bureau	Public	Mix	Certification for export, testing products, registration, analytical services
Barbados	Small Business Association	Private	Service	Lending
	Enterprise Growth Fund	Private	Service	Venture capital
	Youth Entrepreneurship Scheme	Public	Service	Training, financing, mentoring
	Ministry of Agriculture and Rural Development	Public	Service	R&D, Extension
	Barbados Industrial Development Corporation	Public	Service	Training, funding for new ventures
	Rural Development Commission	Public	Service	Lending, business assistance
	Ministry of Industry and Business Development	Public	Service	Lending, training
	Ministry of Education	Public	Mix	Training
Dominica	National Development Corporation	Public	Service	Providing assistance in SME development, lending but has run out of funding
	National Development Foundation	Private	Service	Training, lending, accounting, management and marketing
	Industrial Development Bank	Public	Service	Funding to Gov't agencies
	Dominica Export Import Agency (DEXIA)	Public	Mix	Certification, extension
	Small Projects Assistance Team (SPAT)	Private	Service	SME skills training
Grenada	National Science and Technology Centre	Public	Service	Technical advisory services
	National Development Foundation	Private	Service	Lending, training in accounting and management
	Grenada Industrial Development Corporation	Public	Service	Buildings, accounting services, some assistance in marketing and distribution
	Chamber of Commerce	Private	Service	Management, training
	Produce Chemist Laboratory	Public	Service	R&D

Grenada (continued)	Small Enterprise Development Unit	Public	Service	Lending, training in business development skills, some skills training
	Agency for Rural Development	Private	Service	Lending, training in agricultural related areas
	National Standards Bureau	Public	Regulatory	Certification
	Community College	Public	Service	Training
Saint Kitts and Nevis	Small Enterprise Development Unit	Private	Service	Training, management/accounting assistance to small business
	Industrial Development Bank	Private	Service	Lending
	Foundation for National Development	Private	Service	Loans, start up and management assistance to SME's
	Produce Chemists laboratory	Public	Service	R&D
	National Standards Bureau	Public	Mix	Certification
	Community College	Public	Service	Training
	Women's Affairs Department, Ministry of Health	Public	Service	Skills training for women, small business development assistance
Saint Lucia	National Development Corporation	Private	Service	Lending
	Small Enterprise Development Unit	Public	Service	Training, loans, assistance in accounting, management and marketing
	Chamber of Commerce, Industry and Agriculture	Private	Service	Managerial training programmes
	National Research and Development Foundation	Private	Service	Lending, training
	National Standards Bureau	Public	Service	Certification
	Community College Extension Department	Public	Service	Training
Saint Vincent and the Grenadines	National Development Foundation	Private	Service	Lending, training
	National Development Corporation	Public	Service	Lending
	Produce Chemist Laboratory	Public	Mix	Certification

Status of business support institutions and programmes (by selected country)

Antigua and Barbuda

Although the economy is dominated by tourism, gambling, transshipment documentation and tax haven banking, the government seeks to achieve some balance by creating both a viable industrial base and diversified agricultural activities. Farming is actively encouraged with the goal that agriculture and agriculture products should reach 11 per cent of the Gross Domestic Product (GDP) by the year 2000. A need for land tenure reforms, as highlighted in World Bank economic surveys, persists as a problem in the agricultural sector. There are over 100 small-scale manufacturers and service trades are plentiful, varied and mainly locally owned. The country is known as a tax haven and in-bond transfer point for rerouting merchandise. A free trade zone exists with plots assigned and businesses active from offices in the city but no physical industry developed on-site. There is an abundance of international merchant banks from all over the world and the communications infrastructure is very good. Service is relatively fast and efficient with a time of between three to six weeks to process applications for the establishment of new ventures.

The Government has excellent agriculture laboratory facilities and well-qualified personnel, with a wealth of research directed to the development of crops for value-added production, with the Produce Chemists Laboratory (PCL) being very active and effective in encouraging micro level agri-business. Viable agri-business concepts, recipes and formulae are abundant and available to the public. However, the public seems to be unaware of the services and opportunities available.

Main institutions in the development of small business

(i) **National Development Foundation (NDF)** - The National Development Foundation (NDF) provides start-up training and assistance, management training and has a large lending function. It has been self-sustaining since 1995, with very little competition as there are few other agencies serving small/micro business in the country.

(ii) **The Agricultural Research Laboratory** (Dunbar's) and subsidiary *Produce Chemist Laboratory* (PCL) has an extension programme encouraging small scale farming, and developing micro-scale value added use of agriculture products.

(iii) **The Directorate of Women's Affairs** - Provides craft and food products training to women, concentrating on the micro level of entrepreneurship.

(iv) **The Standards Bureau** - ISO 9000 and 14000 quality assurance is encouraged and the country is addressing the new European Union standards for food.

Barbados

The Government is proactive in encouraging both export and import substitution and has introduced punitive tariff measures to encourage local production of chickens, for example, where a 228 per cent customs duty has been instituted. Other measures have recently been introduced and more are being formulated that would assist in the further development of the small and micro business sector. The education levels are reasonable and the trade skills offered are tied to international standards. There is a variety of tertiary level opportunities and a plan to inculcate small business training at multiple levels of the education system in place. The emphasis is currently on developing diverse micro and small businesses and many new assistance services are in place or being brought on line. New legislation is pending for a small business act, innovations fund, free trade zone and lower taxation for small enterprise. The institutions directly involved in the development of small and micro enterprises are:

(i) ***The Small Business Association*** - A non-governmental organization with funds to lend to members has been established but is not yet fully functioning.

(ii) ***The Enterprise Growth Fund*** - This government programme provides up-scale funding for more advanced small business and there is a mandate enabling the fund to take a venture capital equity position.

(iii) ***The Productivity Council*** - The Productivity Council was set up with an aim of achieving greater productivity in industry and comprises of a team of persons drawn from government, trade unions and private corporations. It seeks to tie wage increases to productivity increases.

(iv) ***The Youth Entrepreneurship Scheme*** - This is a training, financing and mentoring programme for youth, funded in part by the Government of Barbados.

(v) ***The Ministry of Agriculture and Rural Development*** - The laboratory and other facilities provide assistance and extension services to agricultural ventures.

Dominica

Dominican industry has an excellent export base of water, fruit, vegetables, banana chips, fruit drinks, soap, bananas, jams, jellies and hot sauces. The majority of industries are owned by local entrepreneurs who are reinvesting in new ventures. Of note, the soap industry, based on coconuts, was very successful and was recently bought out by Colgate-Palmolive, an international manufacturer of toiletries. The country is developing the tourism industry around scuba diving and eco-tourism. A new cruise ship berth has provided a significant boost to tourism and a new airport is being planned which will permit larger aircraft and direct flights from North America and Europe. The country is open for business, assuring a period of approximately one month for the processing of applications to set up eco-friendly manufacturing

operations. Labour rates are relatively low and may partly account for the thriving industrial sector. The institutions directly involved in the development of small and micro enterprises are:

(i) ***The National Development Corporation (NDC)*** – This agency is housed within the Ministry of Trade and provides some of the services of a Small Enterprise Development Unit that is no longer in operation due to lack of funding.

(ii) ***The National Development Foundation (NDF)*** - The NDF is well managed and near self-sufficiency, with a retail incubator as part of its building facility housing eight tenants. It is active in management training, lending and the provision of accounting, management and marketing consulting services.

(iii) ***The Industrial Development Bank*** - This is the main funding source for the Produce Chemist Laboratory, and supports agro-industry by providing basic analytical services for agriculture, support for post-harvest technology and technical analysis in factories.

(iv) ***DEXIA*** – The Dominica Export Agency conducts activities associated with the promotion of the export of products, including those Bureau of Standards functions related to export development.

(v) ***The Project Resource Implementation Monitoring and Evaluation Unit (PRIME)*** - Under the aegis of the Ministry of Agriculture, the Unit is responsible for externally financed projects.

(vi) ***The Small Projects Assistance Team (SPAT)*** - SPAT is a non-governmental organization involved in community animation and micro enterprise skills training. Producer cooperatives have also been formed under the aegis of SPAT.

Grenada

The Government of Grenada embraces the philosophy of diversification in agriculture, locally owned industry and tourism. Although theoretically capable of attaining self-sufficiency in feeding itself, the country imports significant amounts of agricultural produce, including meat, animal feed and poultry. Exports for 1996 was valued at US\$24 million (f.o.b.), with agricultural produce accounting for over 80 per cent of total exports. The value of food imported in that year was US\$32 million, 25 per cent of the entire import bill. The agro-processing sector is the smallest segment of the local industrial economy, contributing about 6 per cent to total industrial output. Attempts to add value to local agriculture have been met with only modest success citing the lack of entrepreneurial spirit as one of the main reasons. Production is dominated by only a few enterprises operating along commercial lines, while there are several individual producers

operating cottage lines. Recognition of the crucial role played by agro-processors has more recently led to increasing financial and other assistance from institutions, such as the following:

(i) ***The National Science and Technology Centre*** - This is the focal point for science and technology. Staff work in close liaison with the Produce Chemist Laboratory, the vocational trades section of the Community College, the Standards Bureau and the Ministries of Agriculture, Trade and Education. The Centre is active with all small business service providers, especially government-sponsored agencies.

(ii) ***The National Development Foundation (NDF)*** - The NDF is a non-governmental organization striving to become self-sustaining, originally funded by the United States Agency for International Development (USAID) and provides loans to small business, but has now to up-scale away from micro-ventures, due to this mandate to be self-sustaining. The agency provides both start-up assistance/training and owner growth assistance and training in accounting and management and is involved in some specific skills training such as the manufacture of jewelry.

(iii) ***The Grenada Industrial Development Corporation (IDC)*** - The Grenada IDC owns land and buildings and maintains a close relationship with the development bank. Twelve businesses operate out of an incubator that is only partially occupied. Spaces from as small as 300 square feet are available, with enough flexibility to allow for expansion. Bookkeeping and accounting services are provided for tenants, as well as for other entrepreneurs involved in a micro venture project. The IDC's micro venture project covers 373 enterprises, consisting of mainly farmers and processors. The IDC also provides assistance in marketing and distribution.

(iv) ***The Chamber of Commerce*** - The Chamber provides management training and conducts the Junior Achievement Programme and is very supportive of the work done at the Small Enterprise Development Unit and the Development Bank.

(v) ***The Produce Chemist Laboratory (PCL)*** - The laboratory has developed a number of products, but experiences some difficulty marketing them to potential entrepreneurs. For example, the staff has produced a line of jams and jellies which it is attempting to market. A production laboratory is also available to micro-processors to produce and test products.

(vi) ***The Small Enterprise Development Unit (SEDU), Grenada Development Bank*** - The SEDU originated as a lending agency, but is now involved in training persons in small-business start-up skills. Some skills training (e.g. chamber maids, day care workers) is also done, together with a young farmers' programme.

(vii) ***The Agency for Rural Transformation (ART)*** - Formed in 1981, ART has a mandate to serve rural agriculture. It is a non-governmental organization that provides some micro loans and is involved in social animation and poverty alleviation projects, such as the introduction of honey production, rabbit rearing, and furniture making.

(viii) ***The Grenada Bureau of Standards.*** – The Grenada Bureau of Standards is responsible for developing standards and has a programme in place for implementing them. Staff of the Bureau routinely conducts surveys of products on the supermarket shelves and manufacturers are advised of any infringements. It is implementing a metrology programme in response to requests from manufacturers. The Bureau also maintains copies of regional and international standards and disseminates the relevant material.

(ix) ***The Community College*** – The College provides some business management courses and vocational skill sets. The vocational skills department is tied in with the Science and Technology Centre.

Saint Kitts and Nevis

Saint Kitts and Nevis has a small population of 42,291 (July 1998 est.). Most of the land is owned by the State and currently under sugar cane production. Decreasing world prices of sugar, however, have hurt the industry in recent years, therefore tourism, export-oriented manufacturing and offshore banking activity have assumed larger roles. Most food is imported since processing in Saint Kitts and Nevis is limited to the cottage industry. The country has good communications and transportation infrastructure with a container facility and it has recently completed a large cruise ship berthing facility. The airport is modern and efficient and handles large aircraft providing direct service from North America and Europe. Institutions assisting small and medium-sized enterprises are:

(i) ***The Small Enterprise Development Unit (SEDU)*** – The SEDU provides some training and management/accounting assistance to small businesses.

(ii) ***The Industrial Development Bank (IDB)*** – The IDB provides loans to small business and houses the SEDU within its office, relying on both the SEDU and the Foundation for National Development for the provision of assistance, other than financial, to its clients.

(iii) ***The Foundation for National Development (FND)*** – This is a non-governmental organization that is 97 per cent self-sustaining. Start-up and management assistance and providing loans to small and micro business are some of the functions of the FND. Approximately 173 loans were provided in 1997.

(iv) ***The Ministry of Agriculture's Produce Chemists Laboratory (PCL)*** – A well-equipped, multi-purpose laboratory was opened that combines the functions of the Ministry of Agriculture, Fisheries and the Produce Chemist Laboratory. The laboratory staff developed an effective means for eradication of the pink mealy bug, a pest that was rampant throughout the region, causing significant losses of many plant and tree crops.

(v) ***The National Standards Bureau*** – Although new, the Bureau of Standards is under-equipped and in need of optimal upgrading. In spite of this, adherence to *ISO 9000* and 14000 quality assurance standards is encouraged. Coordination with other Standards Bureaus in the region is recommended in order to benefit from economies of resource utilization.

(vi) ***The Community College*** – The College provides some relevant training, with a good technical programme tied to international standards.

(vii) ***The Women's Affairs Department of the Ministry of Health*** – This Department provides some skill set training for women, such as sewing, baking and food preservation with the incorporation of training in the management of small business.

Saint Lucia

While the economy is driven by banana exports and tourism, the country has some industrial exports, with a base of just over 100 industries and 30 exporters. The Government has a policy to encourage diversification in agriculture, develop value-added agricultural products and encourage manufacture. The quality and variety of craft produced is very high in comparison to that produced elsewhere. A free trade zone has been established in the south of the island close to the larger airport. In spite of the above efforts, the procedures to be followed in the establishment of new enterprises may take in excess of one year. The major institutions in small business development in Saint Lucia are:

(i) ***The National Development Corporation (NDC)*** – The NDC provides loan financing to small business.

(ii) ***The Small Enterprise Development Unit (SEDU)*** – Recently funded by STABEX Programme¹, the Unit is a subsidiary of the Ministry of Trade, which delivers training, provides loans and accounting, management and marketing assistance to its clients.

(iii) ***The Chamber of Commerce, Industry and Agriculture*** – The Chamber is active in providing managerial training programmes, partially funded by USAID.

(iv) ***The National Research and Development Foundation (NRDF)*** – This is a non-governmental organization which has been successfully providing loans and start up training and assistance to small business entrepreneurs.

(vi) ***The National Bureau of Standards*** – The facilities at the Bureau are new, but it is under-equipped, under-staffed and in need of optimal upgrading and coordination. Adherence to ISO 9000 and 14000 quality standards is encouraged but with little success to date.

(vii) ***The Community College Extension Department*** provides some business management courses and small business assistance programmes.

Saint Vincent and the Grenadines

The economy is driven by banana exports and tourism in the context of a reasonable base of just over 30 industries. Most of these industries, however, tend to be low scale/low

¹ See Regional Support Programmes - Other

technology and there is a shortage of skilled technicians to service equipment. Although the Government has a policy to encourage diversification in agriculture, develop value-added agricultural products and to encourage manufacturing, the formalities required to establish new business enterprises tends to act as a hindrance to development. The Government has also been relatively unsuccessful in introducing new industries, and high unemployment rates of 35-40 per cent continue. While theoretically capable of attaining self-sufficiency in feeding itself, Saint Vincent and the Grenadines imports significant amounts of food. For example, export of agricultural products was worth about \$40 million, while the value of food imported was almost twice that figure. Like many of the other countries of the OECS, the manufacturing sector is limited to the cottage industry, where most persons have little or no formal training in modern processing or manufacturing techniques. The continuing dependence on a single crop represents the biggest obstacle to the island's development. The main institutions and agencies in the development and support of small business are:

(i) ***The National Development Foundation (NDF)*** – The NDF has a building, the acquisition of which was financed by the Canadian Industrial Development Agency (CIDA) and the STABEX¹ Fund. The Foundation functions as a lending agency for small businesses and provides training and assistance in start-up activities.

(ii) ***The Produce Chemist Laboratory (PCL) – Ministry of Agriculture*** – The PCL is very active in diversification and quality improvement. Many projects have been instituted, which are designed to help small farmers and micro-agribusinesses

Trinidad and Tobago

Trinidad and Tobago has a plethora of organizations, both private and public sector, that contribute to the development of small business. While the public sector continues to play a primary role, the Government, over the last decade, has recognised that the private sector has an equally important role to play. A number of objectives, directly related to increase private sector activity have been outlined, including sustainable economic growth through the expansion of export-oriented activity, improved external competitiveness of the domestic economy and substantial increases in the level of employment. Some agencies involved are:

(i) ***The Small Business Development Corporation (SBDC)*** – A State-owned company, the SBDC's mission is to promote rapid and widespread expansion of micro, small and medium sized enterprises in all business areas in Trinidad and Tobago. Loan guarantees are provided, with information on business start up, marketing, management and training.

(ii) ***The Agricultural Development Bank (ADB)*** – Provides support to agricultural development at all levels. The ADB provides mainly financing to primary producers but now encouraging more agribusiness or "downstream" production. Some research and extension services are also provided.

¹ See Regional Support Programmes - Other

(iii) **National Agricultural and Marketing Development Corporation (NAMDEVCO)**- A State-owned company that facilitates and promotes marketing of agricultural produce.

(iv) **Export Trading Company (ETC)** – A private sector company with some shares owned by Government, the ETC develops and markets products for export.

(v) **Youth Training and Employment Partnership Programme (YTEPP)** – A training programme for young persons between 16-35 years old that links training in all areas to business development. Young persons are trained in various activities and assisted in translating their skills into business opportunities.

(vi) **Fund Aid** – A lending agency, set up by the Government to provide loan funds to small and micro entrepreneurs. Graduates of YTEPP are fully supported by Fund Aid in setting up small businesses, while the SBDC provides the necessary loan guarantees.

Regional support programmes

A number of regional and international bodies exist to encourage and facilitate liaison and coordination. Most notable are:

Caribbean Council for Science and Technology (CCST)

The CCST is an intergovernmental organization established for the promotion of cooperation in science and technology, with the long-term goal of furthering the social and economic development of its member countries. This includes efforts to cooperate in the mutual transfer of science and technology in order to facilitate the adaptation of imported technology, and the adoption of domestic technologies. Specifically, the CCST is mandated to design and execute appropriate joint scientific and technological projects, provide advisory services to member countries, devise procedures for effective dissemination of the results of Caribbean research development projects and promote the establishment and strengthening of appropriate national and Caribbean organs and mechanisms for science and technology development and application. It was established in 1981 by member governments of the Caribbean Development and Cooperation Committee (CDCC) with the assistance of the United Nations Educational, Scientific and Cultural Organisation (UNESCO) and operates under the aegis of the United Nations Commission for Latin America and the Caribbean (ECLAC) Subregional Headquarters for the Caribbean.

Caribbean Community (CARICOM)

CARICOM is most important as the facilitator of a Caribbean-wide single market, encouraging cooperation and coordination for the region. CARICOM has three areas of activity:

economic integration now moving towards a Caribbean Single Market Economy (CSME); cooperation in non-economic areas and the operation of certain common services; and coordination of foreign policies of its independent member States. The Caribbean Common Market provides for the establishment of a Common External Tariff (and common protective policy and the progressive coordination of external trade policies); the adoption of a Scheme for the Harmonization of Fiscal Incentives to Industry; double taxation arrangements among member countries; the coordination of economic policies and development planning; and a Special Regime for the Less Developed Countries of the Community. CARICOM comprises 14 member countries - Antigua and Barbuda, the Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Jamaica, Montserrat, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname and Trinidad and Tobago. The British Virgin Islands and Turks and Caicos Islands have Associate Membership.

Caribbean Association of Industry and Commerce (CAIC)

The CAIC is the only regional body representing private sector organizations in the Caribbean. Members come from all the countries of the Caribbean as well as Belize, Cuba, French Guiana, Puerto Rico and Santo Domingo. It was formed to primarily serve, develop and strengthen the regional private sector through the implementation of feasible, practical and result-oriented programmes in the areas of international trade negotiations, training and affiliate development, communications and membership development, economic research and analysis and small enterprise assistance project export development. The membership of the CAIC is comprised of Chambers of Commerce, manufacturers, exporters, trade, small and medium enterprise associations, conglomerates, companies, finance companies and consulting firms.

Organization of American States (OAS)

The OAS, described as the "principal forum in the hemisphere for political, economic and social dialogue" has a very active presence in the Caribbean, with focus on the areas of trade and environment. The OAS has a policy to encourage projects of a regional nature and tends to make partial or supplemental contributions to them.

Organization of Eastern Caribbean States (OECS)

The OECS was established in 1981 and comprises Antigua and Barbuda, Dominica, Grenada, Montserrat, Saint Kitts and Nevis, Saint Lucia and Saint Vincent and the Grenadines. The British Virgin Islands and Anguilla are Associate Members. The functions of the OECS, are, among other things, to promote cooperation among its members, and at the regional and international level, to promote unity and solidarity and to defend their sovereignty, territorial integrity and independence; to assist them in the realisation of their obligations and responsibilities to the international community; and to seek and achieve the fullest possible level of harmonisation of foreign policy among them, to promote economic integration. Member States share a single currency, the Eastern Caribbean dollar (ECD), the operation of which is

overseen by the Eastern Caribbean Central Bank (ECCB). The countries also share a Supreme Court. Cooperation exists among members in other sectors, with activities spearheaded by specialist units/agencies.

The Caribbean Development Bank (CDB)

The role of the CDB is to contribute to the harmonious economic development of the member countries of the Caribbean, and promote economic cooperation and integration among them, having special and urgent regard to the needs of the Lesser Developed Countries (LDCs). The Bank has also established a Technical Advisory Assistance Fund to be utilised for financial and advisory services, training and studies in the fields of general development, project implementation and pre-investment and bank development. It has also established a Training Unit with responsibility for training public sector personnel at the upper and middle levels of the public services of the Bank's borrowing member countries in all aspects of the project cycle (identification, preparation, appraisal, implementation and evaluation). Publications of the Bank include sector policy papers on agriculture, development finance corporations, electric power, housing, human resource development, industry, tourism, transport and water and sewerage. The CDB actively supports the industrial development banks in each country by wholesale lending, financing and co-financing major projects and underwriting exports.

Other

Some other initiatives in the field of small and micro business development are also being introduced. For example, USAID has ongoing projects with the focus on management training. The Government of Taiwan provides funds for un-lending to small businesses and agricultural projects in the Eastern Caribbean, while the Japanese Government and other aid agencies support fishing initiatives in the form of small vessels, in-shore fishing technology transfer, catch processing facilities and fish markets. Kuwait and the Netherlands provide technical assistance in the development of agricultural products and irrigation technology is adapted from Israel. The Commonwealth Fund for Technical Cooperation (CFTC), operating through the Commonwealth Secretariat or the Commonwealth of Learning, makes significant contributions by way of technical assistance in a variety of fields in most countries. The Republic of France is active in the Caribbean due to the existence of the French Departments of Guadeloupe and Martinique. There exists a policy to assist other Caribbean countries and support regional trade and to assist the OECS countries in small business development and the sharing of science and technology resources. It is also endeavouring to assist in reducing any negative impacts that the new European Union regulations will have on agricultural produce, meats and fisheries products from the OECS countries.

Also active in the region are the European Union's European Development Fund (EDF) which provides grants, risk capital and loans for national and regional development programmes. Also included in the EDF is the Stabex Fund which has been established to facilitate cash transfers to offset serious losses on agricultural exports worldwide, and which currently supports the banana producers in the Windward Islands. The United Nations and its subsidiary agencies

including the United Nations Development Programme (UNDP), the United Nations Industrial Development Organization (UNIDO), the International Labour Organisation (ILO), UN-ECLAC, UNESCO and the International Fund for Agricultural Development (IFAD) have a significant presence.

Technology and entrepreneurial development

It has long been recognized that technology can increase productivity, effective transfer of technology is therefore very important. Technology transfer need not involve the introduction of a new, high technology, but rather developing appropriate technologies for local socio-economic conditions. Persons with few skills must be assisted to use technology to enhance their limited attributes, a problem which can be partly solved by the development and execution of comprehensive and integrated national and regional extension programs in the appropriate areas. Existing and new local micro and small-scale enterprises will benefit significantly from enhanced technological support. Small-scale enterprises include many small and micro cottage industries in agro-processing, as well as some manufacturing industries and traditional or informal activity such as fisheries, arts and crafts and construction. In addition to creating jobs and developing entrepreneurial skills, small-scale enterprises perform other functions. They provide services to markets generally not served by larger companies, encourage competition within the community and very often utilize local raw materials, thus encouraging both import substitution and export promotion. They serve an important social function by providing an area of activity for enterprising, independent persons to fulfil their potential.

Conclusion

Because the industrial sectors in the region are comparatively small, the solution lies in the need to improve support services on an integrated basis for the promotion and development of sustainable indigenous micro, small and medium enterprises. Each country has a plethora of organizations delivering small-business assistance services to diverse target groups. There is however, a need for closer coordination and increased competency and technical support to create the ability to follow through in developing ideas into sustainable enterprises. In many instances, the services provided are themselves not self-sustaining. Support services in the areas of standards and metrology, technology transfer and quality assurance, require additional training of personnel and expansion of functions and capabilities.

Economic diversification and development in the Caribbean especially at the level of micro and small business must first earn strong government recognition of the role of science and technology. The basic strategy should be aimed at tightening coordination among science and technology and small and micro enterprises assistance providers across the region and to strengthen resources with a goal to increasing employment, productivity, products and competitiveness. In this regard, CARICOM has already established proposals for Expansion of the Regional Enterprise Competitiveness Programme (1998-2003). The main objective of the Programme being the enhancement of enterprise level competitiveness by strengthening their producers' capabilities to improve the marketability of products produced in the Region.

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Any such programme should be based on three modules:

- (a) Institutional strengthening;
- (b) Human resource development;
- (c) Networking.

Institutional strengthening

The activities under "institutional strengthening" should be geared towards fostering an outreach support system through which small and medium enterprises can rely on a network of sources of assistance to overcome their constraints on competitive and successful growth. Because of their size, small and micro enterprises are not able to internalize all functions related to innovation, marketing and training. Support institutions are, therefore, essential partners for these businesses to overcome these limitations and provide access to resources, advice and expertise. The challenge is to build an institutional system that is responsive and demand oriented, able to design its services in order to respond to the real needs of the enterprises, avoiding the simple provision of standardized services. Any such system should promote the full participation of the beneficiaries in the design and management of the support services and also encourage the creation of non-traditional support systems like common service facilities managed by groups of enterprises or resource centers for small and micro enterprises.

Human Resources Development

The development of human resources is an essential element for an enterprise's competitiveness as well as for the effectiveness of industry support institutions. Human Resources Development should be based on the application of the principles of total quality and continuous improvement in skill development and upgrading. The assumption is that total quality and continuous improvement techniques do not relate only to the organization of production, but are also woven into the human resources development aspect. The challenge is to build total quality skills, i.e. entrepreneurs and trainers, able to continuously upgrade their performance and adapt to the requests of their respective markets, be they global product market or the market of technical support services.

Networking

Clustering and networking are fundamental factors for increasing competitiveness. The networking approach is far-reaching in the sense that it is applicable at all levels of activity.

- At the project level management, through the establishment of a coordination committee which would bring together representatives from the private and public sector to encourage consultation and joint action;
- At the level of the institutional support structure, where the basic approach would be to create a network of resource centres and people able to combine different capacities and offer appropriate and integrated support services; and encourage production complementation and the generation of joint initiatives and projects.
- At the enterprises level - different but complementary networks could be fostered as follows: (a) networks between providers of services to better coordinate delivery of services; (b) utilization of resources and increase expertise available; (c) networks between complementary enterprises and service providers which combine resources and generate new business opportunities by joint action (for instance by designing a joint marketing strategy to tap new markets, by establishing mutual subcontracting linkages and specializing by product or by process; by setting up a new joint enterprise providing services or inputs to group members, etc.); and (d) networks at the level of rural communities with an emphasis on the establishment of a common territorial development vision and of a plan of action shared by all community members in order to increase community living standards by increasing income generated from manufacturing activities.

Effective technology transfer especially to developing countries is fundamental to strengthening their industrial, manufacturing and agricultural sectors. This strengthening of the respective economic sectors is directly related to local economic empowerment. Local economic empowerment is itself a critical factor in facilitating effective, relevant technology transfer to local entrepreneurs. The establishment of technical management centres may be the first step towards a comprehensive diversification programme. These centres could generate employment through the promotion of small and medium enterprises and the development of entrepreneurs, especially among women and youth. The establishment of networks of existing institutions, such as the small enterprise development units, the industrial development corporations, the produce chemists laboratories and the community colleges could be used to provide assistance to entrepreneurs and potential entrepreneurs in project design, product development and competitiveness and business management skills.

The strengthening of economic sectors also builds competitiveness, enhances the ability to utilize local resources in a sustainable manner, promotes the creation of new types of small and micro enterprises that may be of particular benefit to rural youth and women and may act as a stimulus to export development. A diversified economy, not excessively dependent on one particular sector, tends to offset the effects of market fluctuations in other sectors and provides a greater variety of career and income opportunities.

